

FINDAS-IDIS CWG



FINDAS-IDIS Commonality WG Mtg6 (CWG6_6) - Minutes of Meeting

held at ESTEC, Noordwijk, 13 Dec 1999 10.00-17.30 hours

1. Welcome and presentation of members

The following members have participated in the meeting :

Göran Pilbratt (GP), ESA(SSD)(FIRST PS)
Kevin Bennett (KB), ESA(SSD)(Planck/SA)
Jan Tauber (JT), ESA(SSD)(Planck PS)
Rik Huygen (RH), K.U.L.(PACS)
Adam Hazell (AH), ESA(SSD)(Planck)
Erich Wieszorrek (EW), MPE(PACS)
Jean-Jacques Mathieu (JJM), ESA(TOS-EMS)(FIRST and Planck)
Fabio Pasian (FP), OAT(LFI)
Johannes Riedinger (JR) (ESTEC/SA)
Pierre Estaria (PE), ESA(SPD)
William O'Mullane (WOM), ESA(SSD)(Planck)
Neal Todd (NT), Imperial College(SPIRE)
Albrecht de Jonghe (AdJ), (SRON/HIFI)
Rodney Warren-Smith (RWS), Imperial College (SPIRE)
Stephan Veillat (SV), ESA (FIRST-FSC)
Peter Claes (PC), ESA(SSD)(FIRST-FSC)

Excused were :

Otto Bauer (OB), MPE(PACS)
Andrew Harwood (AHa), Imperial College (SPIRE)
Ekkie Wieprecht (EKW), MPE(PACS)
Trevor Dimbylow (TD), RAL(SPIRE)
Peter Roelfsema (PR), SRON(HIFI)
Jean-Francois Sygnet (JFS), IAS (HFI)

FINDAS-IDIS CWG



2. Agenda and objectives of the meeting

2.1 Agenda

PART A : FINDAS-PROTOTYPE ACTIVITIES, CONCLUSIONS AND SUMMARY OF TESTS

10.00 - 10.15 Introduction (15 min) (PC)

10.15 - 13.00 Summary Presentation by each Test Group of Test Activities and Conclusions/Recommendations.

13.00 - 14.00 LUNCH

PART B: FINDAS-IDIS COMMONALITY PROPER

14.00 - 14.30 FINDAS-presentation : schedules, future plans, concept , etc. (GP)
(as introduction to commonality and as status report)

14.30 - 15.00 IDIS-presentation : schedules, future plans, concept , etc. (KB)
(as introduction to commonality and as status report)

15.00 - 15.15 coffee

15.15 - 16.00 Demo on Livelink (DMS) product (Adam Hazell)

16.00 - 17.00 Discussion about commonality (ALL)
- document tree
- DMS
- URD
- Commonality in Data Model
- Database Technologies
- others

PART C: ACTION-PROCESSING

17.00 - 17.25 Actions and next meeting-date (30 min)

FINDAS-IDIS CWG



17.25 - 17.30 AOB (5 min)

2.2 Objectives of the meeting

- Action processing.
- Presentation by the different test-groups of the results (problems encountered and lessons learnt) of FINDAS-Testing and FINDAS System Testing
- Exploration of commonality between FINDAS and IDIS
- Livelink (DMS-product) demo as an example of system where commonality can be achieved

3. Review of Actions of CWG6_5

CWG6_5-A1: Rik Huygen to submit a new Requirement for the FINDAS URD addressing the need of a public API as an interface to the database and to implement for FINDAS (the term Middleware should be avoided in the Requirement). **Deadline: 30th of October**

Actionee: RH

Deadline/Status: done by sending comments on the FINDAS URD draft 0.5

CWG6_5-A2: PC to distribute the updated issue of the Test Plan before the end of September. **Deadline: 30th of September** (replaces action CWG6_4-A4).

Actionee: PC

Deadline/Status: The document was produced and sent to Management on the 8th of October. The document is not distributed yet, but will be put under DMS this week.

CWG6_5-A3: Peter Roelfsema to submit the agreed detailed test scenarios (test cases) to PC for inclusion in the Test Plan. **Deadline: 24th of September**

Actionee: PR

Deadline/Status: done

FINDAS-IDIS CWG



CWG6_5-A4: ICCs and FSC to submit modifications/additions/missing information to the common Object Model before the end of September. **Deadline: 1st of October**

Actionee: ICCs, FSC

Deadline/Status: done, last modifications received on the 23rd of November 1999

CWG6_5-A5: PC to generate a collection of Proposer- and Proposal objects with updated structure for system testing in the database before the middle of October. **Deadline: 11th of October**

Actionee: PC

Deadline/Status: done, email of dd. 9 Nov 1999

CWG6_4-A1: PE to distribute the allowed range of telemetry packet-sizes before the end of August.

Actionee: PE

Deadline/Status: postponed till the middle of February of 2000, answer to be provided by OBDH specialist (S. Thuerey) ; the answer will be contained in Packet Structure ICD (PS-ICD)

CWG6_4-A2: PC to cross-check the requirements in the Test Plan with those in the Statement of work and the revised requirements by Vega and to make the necessary modifications, additions.

Actionee: PC

Deadline/Status: done and Test Plan sent to Management attached to an email on the 8th of October 1999

CWG6_4-A3: PC to complete the test tracibility matrix and change the requirements according to the comments made in CWG6_4.

Actionee: PC

Deadline/Status: done and Test Plan sent to Management attached to an email on the 8th of October 1999

CWG6_4-A7: All to contribute to the Test-report before the 20th of September.

Actionee: All

Deadline/Status: due on the 7th of January 2000

FINDAS-IDIS CWG



CWG6_4-A11: PC to complete the set-up of the WWW-page before the end of the week.

Actionee: PC

Deadline/Status: closed as testing is finished

CWG6_4-A15: Kevin Bennett to make/prepare a presentation of the status of IDIS at the next meeting (CWG6_5).

Actionee: KB

Deadline/Status: done, this meeting

CWG6_4-A16: Göran Pilbratt to make/prepare a presentation of the status of FINDAS at the next meeting (CWG6_5).

Actionee: GP

Deadline/Status: done, this meeting

CWG6_4-A17: ICCs to send to Pierre Estaria their answers to the fundamental FINDAS-questions.

Actionee: ICCs

Deadline/Status: closed by PE this meeting, no longer needed

4. PART A : FINDAS-PROTOTYPE SYSTEM TESTING RESULTS : PROBLEMS ENCOUNTERED AND LESSONS LEARNT

Detailed Technical results can be found in the presentation viewgraphs of this meeting.

4.1 FSC

PC presented the lessons learnt from both the FSC stand-alone client and the System Testing. Solutions which lead to a lowest common denominator in richness and uniformity of the COTS Object Model should be avoided. Solutions which add in com-

FINDAS-IDIS CWG



plexity which is not related to the problem domain should be avoided if possible. Updated development milestones of the FSC-client were presented as well.

PC outlined the success and results (lessons learnt : see viewgraphs of presentation and the Test Report which is in the process of being written) of the System Tests.

PC also presented some lessons learnt while producing the Common Object Model (COM) for the tests.

4.2 SPIRE

SPIRE mentioned its network problems during the System Tests.

SPIRE also noticed that its client when integrated for System Testing was a factor 5 or 10 down in performance in comparison to the stand-alone version.

AdJ agued that this could be due to lock-outs and more disk-reads. Retrievals could be much more sufficient by using indexing instead of sequence numbers.

JJM mentioned that relations between classes are the most important aspects of the COM. SPIRE stated that for them the Common Object Model is equal to FINDAS.

Action 1: KB to examine the appropriate route in the ESA-hierarchy to find a solution for/avoid inappropriate network-routes that slow down FINDAS-connections (Kevin has written already a memo to ADM-I and G Kreiner (SA's representative on the ISB), so the action is underway).

4.3 PACS

PACS said that for their testing they did not use the networks but ran their client remotely.

EW presented some graphs displaying the time between packets in function of the packet sequence number for varying packet-size and number of packets received.

4.4 HIFI

HIFI concluded that Distributed Operations are well feasible but that distributed development is much more difficult. FINDAS prototype system testing preparation and execution showed the weaknesses of the approach and what has to be improved in order to make distributed development work.

AdJ mentioned that the VEGA-Infrastructure was not exercised.

The reason for this is that the integration exercise was already difficult enough, so that there was no room for additional complexity and testing.

EW said that we want to do additional things apart from the things which are already tried out by VEGA.

PE said that he would like to have an answer (as a result of the Testing) whether the VEGA-prototype is useful or not.

PC mentioned that this will be outlined in detail in the Test Report.

Benefits from the VEGA effort already to be mentioned :

FINDAS-IDIS CWG



- COTS-selection
- setup of a FINDAS system
- one week of training in how to develop for FINDAS

4.5 Test Scenarios

All four test scenarios have been executed except Scenario 4 : Roll Back.

Rollback is only possible for the contents of the objects, not for a class-definition. An OO-system only allows extension of functionality not a reduction of functionality.

Changes in contents of objects have been exercised during the System Tests.

4.6 Common Object Model

The Common Object Model got stable on the 23rd of November. It was generally commented that Uses Cases were missing as a means of achieving the Common Object Model. The Model went therefore into many iterations and suffered from a interdependency between development groups due to a lack of abstract Interfaces. It should however be noted that for this prototype the amount of effort and the scope of System Testing was considered as minor (in comparison to the overall test-effort) from the start.

4.7 Schedule for issuing the Test Report

The following schedule for issuing the Test Report was agreed :

Activity	Deadline
input for the first draft	7th of January 2000
distribution of the first draft	12th of January 2000
comments on the first draft	28th of January 2000
distribution of the first and final issue	11th of February 2000

4.8 Other issues

GP asked the ICCs whether they still want to continue testing or using the prototype-FINDAS. This question is important as one of the machines will go back to ESTEC-TOS. The ORBIX-license will be transferred/given back to TOS as well. If we would continue to use CORBA then we would have to purchase it soon.

The ICCs answered that as far as they are concerned the testing is finished.

==> FSC should not purchase anything anymore for prototype activities.

FINDAS-IDIS CWG



5. PART B : FINDAS-IDIS commonality

5.1 What IDIS has to offer to FINDAS ...

KB's presentation of IDIS and AH's presentation of Livelink showed that IDIS has to offer to FINDAS :

- a Document Management System
- Experience with the Object Data Base Management System : "Objectivity"
- Evaluation of and Possible re-use of the SPR and RID-system originally coming from Integral
- the Data Management Component Interface (DMCI) as a means of encapsulating the client-application from the database

5.2 What FINDAS has to offer to IDIS ...

- Storage of Planck data
- Possible common usage of certain abstract domain classes such as *Observation* of which both Planck and FIRST can inherit and which will be there interface for persistent storage of e.g. level 4 products at a later stage, at least the design should not be incompatible with this scenario.

GP outlined 3 basic activities as crucial to FINDAS development : generation of the URD, Scenario Production and Prototype Testing. The FIRST Ground Segment System Engineering Group will determine what are the drivers of FINDAS development and when they are needed.

JR mentioned that the following development decisions were agreed by all parties in the VILSPA Scenario meeting :

- all uplink will be in JAVA
- O2 will be abandoned and Objectivity shall be the baseline for the ODBMS
- FSC will initially define the Common Object Model together with the ICCs in co-location

JR commented that as a new baseline only Planck level 4 products will be stored in FINDAS. Both the FIRST and Planck SIRDs will have to be updated as a result of this new baseline.

JT said the IDIS and FINDAS URD should be compared now that they are available.

JT asked how the decision was made to choose for Objectivity as ODBMS.

JR explained that objective criteria were developed for the selection of Objectivity as part of an initial evaluation phase. The Roadmap explains the baseline strategy FSC proposes.

The Planck-members expressed interest to receive the Roadmap-document.

Action 2: JR to distribute the FSC-Roadmap document to the Planck members of the CWG6.

FINDAS-IDIS CWG



5.3 Livelink demo

AH gave a "Livelink" demo as an example of an application where commonality can be reached.

RH asked if a collection of documents can be downloaded. Answer : Livelink is capable of doing so..

PC asked whether the Project would adopt the Livelink-DMS as well when this system is chosen. PE said that there was no plan to do so. AH said that there is an investigation on-going how to convert the content of the present DMS-system into Livelink.

5.4 Other commonality issues and procedure to address them.

A common Interface to the MOC is a potential commonality issue.

Commonality Issues which are related to the MOC will be addressed by John Dods-worth which will be a member of both the FIRST and Planck System Engineering Groups. The Planck System Engineering Group has still to be formed.

Other FINDAS-IDIS commonality issues should be handled by a meeting of CWG6, in which the same participants and chairman will convene if needed for tackling the problem-issues.

6. Next meeting

A next meeting will be organised if a need arises to do so. The members and chairman will be the same.

7. AOB

None

List of Actions:

A. New Actions

CWG6_6-A1: KB to examine the appropriate route in the ESA-hierarchy to find a solution for/avoid inappropriate network-routes that slow down FINDAS-connections.
Actionee: KB, **Deadline:** 28th of February

FINDAS-IDIS CWG



CWG6_6-A2: JR to distribute the FSC-Roadmap document to the Planck members of the CWG6. **Actionee:** JR, **Deadline:** 24th of December

B. Still outstanding actions of the previous meeting(s)

CWG6_4-A1: PE to distribute the allowed range of telemetry packet-sizes before the end of August.

Actionee: PE

Deadline/Status: postponed till the middle of February of 2000, answer to be provided by OBDH specialist (S. Thuerey) ; the answer will be contained in Packet Structure ICD (PS-ICD)

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Actionee: PC

Deadline/Status: document was produced but not distributed yet, will be put under DMS before the 17th of December (this week)

CWG6_4-A7: All to contribute to the Test-report before the 20th of September.

Actionee: All

Deadline/Status: postponed, new deadline 7th of January